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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,927	12/13/2001	Salvador Aldrett Lee	C-7210	2208

7590

10/05/2004

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/021,927	Applicant(s) ALDRETT LEE ET AL.	
	Examiner Virginia Manoharan	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The specification had not been checked on the extent necessary to determine the presence of all possible minor errors e.g., typographical, grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claim 1, line 3, the claimed "the process contacting" provides for ambiguity and confusion, especially since steps c and d, for examples, are directed to a "directing" and "forwarding" steps respectively.
- b. Claim 1, reciting the ethyl propionate/ water azeotrope is incomplete, without reciting the composition and pressure defining the azeotrope. [An artisan knows that both the weight percentages and the boiling point of a component of an azeotrope composition are subject to change when the composition is subjected to boiling at different pressures such that an azeotrope must be defined in terms of the compositional ranges of the components or in terms of the exact weight percentages of each component of the composition defined by a fixed boiling point at a specified pressure].

Claims 1-12 are objected to because of the following informalities:

- a. The inconsistent used of terminology in the claims is improper. For examples:
- i. "an aqueous acrylic acid stream" in claim 1, line 7 as opposed to acrylic acid containing stream" in line 8. The latter also could read on the "stream in acrylic acid" recited in line 5;
  - ii. "the oxidation effluent" in claim 4 as opposed to the "gaseous effluent" in claim 1, line 2.
- b. The claimed "the vapor phase" in claim 2, lacks antecedent support.
- c. The used of a slash such as in "ethyl propionate/ water" in claim 1 is improper.
- d. In claim 1, b), it is suggested that the name of the compound be followed by abbreviation (EP). Note further the recitation in claims 11 and 12.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coyle (4,554,054) with or without GP (2004-886).

Coyle discloses substantially the process as claimed (see e.g., columns 7 and 8). The process of Coyle differs from the claimed invention in that Coyle's quenching step occurs in a two-stage condenser as opposed to step b0 of claim 1, which recites

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“contacting the gaseous stream in a quenching zone with liquid previously formed by condensation in such quenching zone to form an aqueous acrylic acid stream”.

However, the above difference is deemed not to constitute a patentable distinction inasmuch as Coyle's two-stage quenching is not precluded by the claims (and a matter of additive). Nonetheless, the GP '886 discloses, in the abstract, that a single-stage quenching is known in the art.

To combine the above references would have been obvious to one of ordinary skill in the art especially since both references are directed to the same processing environment, i.e., to the separation or purification of (meth)acrylic acid containing the same.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Yeoman et al discloses a process wherein the oxidation reactor effluent gases are quenched by direct contact with a recirculation stream of partially condensed effluent.
- b. Leacock and Honda et al both disclose a process for recovering methacrylic acid.
- c. Speed discloses a process for treating methacrylic acid by extraction and azeotropic distillation.
- d. Brown et al discloses a process including quenching the gaseous reaction mixture by contact with a cooled liquid comprising acrylic acid.

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- e. GP '759 discloses a process for the separation of methacrylic acid from a mixture containing same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450. The examiner can normally be reached on Tuesday--Friday from 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Manoharan/dh  
September 26, 2004

  
VIRGINIA MANOHARAN  
PRIMARY EXAMINER  
ART UNIT 123 1764